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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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22150	7590	04/19/2006	EXAMINER	
F. CHAU & ASSOCIATES, LLC			DOUYON, LORNA M	
130 WOODBURY ROAD			ART UNIT	
WOODBURY, NY 11797			PAPER NUMBER	

1751

DATE MAILED: 04/19/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/774,783	<b>Applicant(s)</b> MUN ET AL.	
	<b>Examiner</b> Lorna M. Douyon	<b>Art Unit</b> 1751	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 09 February 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-27 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>5/13/05</u> . | 6) <input type="checkbox"/> Other: _____  |

***Abstract***

1. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally **limited to a single paragraph** on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

2. The abstract of the disclosure is objected to because it is not limited to a single paragraph.

Correction is required. See MPEP § 608.01(b).

***Claim Rejections - 35 USC § 112***

3. Claims 10, 12, 13, 17, 23, 25 and 26 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 10 is indefinite in the recital of "alkaline solution is . . . chloride solution" (see last two lines) because a chloride solution is not an alkaline solution. In addition, the Markush language is improper. The phrase "selected from the group consisting of" should be followed by "and" and not "or". See MPEP 2173.05(h)(I).

Claims 12 and 25 are indefinite in the recital of "(mP<sub>2</sub>O<sub>5</sub>.nH<sub>2</sub>O)" (line 4 of each claim) because "m" and "n" are not defined.

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Claims 13 and 26, being dependent upon claims 12 and 25, respectively, are rejected as well.

In claim 17, line 2, “formula 1” lacks support with respect to claim 15 which refers to “formula” only.

Claim 23 is indefinite in the recital of “alkaline solution is . . . chloride solution” (see last two lines) because a chloride solution is not an alkaline solution.

***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-7, 9, 12, 14-20, 22, 25 and 27 are rejected under 35 U.S.C. 102(b) as being anticipated by Quinlan (US Patent No. 4,670,186).

Quinlan teaches an acid inhibitor composition comprising polyamine, alkynol and a surfactant (see abstract). In Example 24, Quinlan teaches a corrosion inhibiting formulation comprising 15% by weight propargyl alcohol (also known as 2-propyn-1-ol), 15% by weight dodecyl alcohol + 20 mols ethylene oxide (which meets the recited formula for the surfactant) and 10% by weight water (see Table under cols. 7-8). This formulation is employed to inhibit corrosion in a 5% hydrochloric acid solution and the inhibitor formulation was employed at 0.1% by volume (see col. 8, lines 62-68). A 0.1% by volume of the above inhibitor would still result in propargyl alcohol and surfactant concentration in amounts within those recited, i.e., 0.00015%

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by weight each of propargyl alcohol and above surfactant. Another alkynol used is butynediol (also known as 2-butyne-1,4-diol) (see col. 2, line 52). Quinlan teaches the limitations of the instant claims. Hence, Quinlan anticipates the claims.

6. Claims 15-18, 22-24 are rejected under 35 U.S.C. 102(b) as being anticipated by Sato et al. (US Patent No. 5,849,467), hereinafter "Sato".

Sato teaches, in Example 4, an aqueous cleaning solution which was prepared by dissolving 2.30 parts of TMAH (tetramethylammonium hydroxide; see col. 8, line 8) and 0.5 part of 2-butyne-1,4-diol in a mixture of 15 parts propyleneglycol monomethylether (PGME) and 82.12 parts of water (see col. 8, lines 29-34). Sato teaches the limitations of the instant claims. Hence, Sato anticipates the claims.

7. Claims 1-7, 15-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Schafer-Burkhard (US Patent No. 4,311,618).

Schafer-Burkhard teaches in Example 4, a cleanser composition comprising 40% by weight of deionized water, 4% by weight of C<sub>18</sub> alcohol mixed polymer ether, the polymer portion of which had been made from 12 moles of propylene oxide and 6 moles of ethylene oxide (which meets the recited formula for the surfactant), and 1% by weight 1,4-butyne-1,4-diol (also known as 2-butyne-1,4-diol) (see col. 14, line 45 to col. 16, line 16). Schafer-Burkhard teaches the limitations of the instant claims. Hence, Schafer-Burkhard anticipates the claims.

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8. Claims 1-2, 4, 6, 9, 12-15, 17, 19, 22, 25-27 are rejected under 35 U.S.C. 102(b) as being anticipated by Otrhalek et al. (US Patent No. 4,032,466), hereinafter "Otrhalek".

Otrhalek, in Example 1, teaches an acid cleaner comprising 47.77 parts (wt%) of water, 3 parts (wt%) oxalic acid, 12 parts (wt%) of alpha-alkyl (C<sub>12</sub>-C<sub>18</sub>) omega-hydroxy poly(oxyethylene) with the poly(oxyethylene) content averaging 9 moles, a nonionic surfactant of the ethoxylated monohydric alcohol type (which meets the recited formula for the surfactant), 25.2 parts(wt%) of 37 percent hydrochloric acid and 0.13 part (wt%) of propargyl alcohol (also known as 2-propyn-1-ol), see col. 8, line 64 to col. 9, line 12). Otrhalek teaches the limitations of the instant claims. Hence, Otrhalek anticipates the claims.

***Claim Rejections - 35 USC § 103***

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later

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invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

11. Claims 8 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Quinlan as applied to the above claims.

Quinlan teaches the features as described above. As stated above, in Example 4, Quinlan teaches a surfactant which is dodecyl alcohol + 20 mols ethylene oxide (see col. 8, lines 20-40). In addition, Quinlan teaches suitable surfactants which are oxyalkylated surfactants having alkylene oxide like ethylene oxide from 1 to 2000 (see col. 3, lines 43-57). Quinlan, however, fails to disclose a dodecyl alcohol + (5-15) mols ethylene oxide.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to select the portion of the prior art's range which is within the range of applicant's claims because it has been held to be obvious to select a value in a known range by optimization for the best results. As to optimization results, a patent will not be granted based upon the optimization of result effective variables when the optimization is obtained through routine experimentation unless there is a showing of unexpected results which properly rebuts the *prima facie* case of obviousness. See *In re Boesch*, 617 F.2d 272, 276, 205 USPQ 215, 219 (CCPA 1980). See also *In re Woodruff*, 919 F.2d 1575, 1578, 16 USPQ2d 1934, 1936-37 (Fed. Cir. 1990), and *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955). In addition, a *prima facie* case of obviousness exists because the claimed ranges "overlap or lie inside ranges disclosed by the prior art", see *In re Wertheim*, 541 F.2d 257, 191 USPQ 90 (CCPA 1976; *In re*

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*Woodruff*, 919 F.2d 1575, 16USPQ2d 1934 (Fed. Cir. 1990). See MPEP 2131.03 and MPEP 2144.05I.

12. Claims 1-5, 9-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sato as applied to the above claims.

Sato teaches the features as described above. In addition, Sato teaches that it is optional that the aqueous cleaning solution is admixed with a small amount of a surface active agent, one of which is a non-ionic surface active agent to improve the wettability of the resist surface with the cleaning solution or to adjust the surface tension of the solution (see col. 5, lines 41-48). Sato, however, fails to specifically disclose an aqueous cleaning solution wherein a surface active agent is present.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate a surface active agent into the aqueous cleaning solution because this would improve the wettability of the resist surface with the cleaning solution or to adjust the surface tension of the solution as taught by Sato.

13. Claims 3, 5, 16 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Otrhalek as applied to the above claims, and further in view of Quinlan.

Otrhalek teaches the features as described above. In addition, Otrhalek teaches that in certain cases, such as where unpainted metals are being washed, it is important to include a corrosion inhibitor and any of the well-known corrosion inhibitors are suitable for the purpose



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(see col. 7, lines 43-48). Otrhalek, however, fails to disclose a corrosion inhibitor such as 2-butyne-1,4-diol, that is, in the recited formula,  $R_1$  is OH.

Quinlan teaches the equivalency of propargyl alcohol with butynediol (i.e., 2-butyne-1,4-diol) as corrosion inhibitors in a similar composition (see col. 2, lines 50-54).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to substitute propargyl alcohol with 2-butyne-1,4-diol because Otrhalek desires any well known corrosion inhibitor and Quinlan teaches the well-known 2-butyne-1,4-diol as corrosion inhibitor as well as its equivalency with propargyl alcohol.

14. Claims 7-8, 20-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Otrhalek as applied to the above claims.

Otrhalek teaches the features as described above. In addition, Otrhalek teaches that the nonionic surfactant is present in an amount from about 7 to about 23 weight percent of the final composition (see col. 4, lines 13-16). Other suitable nonionic surfactants include fatty alcohols like dodecyl alcohol condensed with 5 to 30 moles of ethylene oxide (see col. 5, lines 53-61). Otrhalek, however, fails to specifically disclose the nonionic surfactant in amounts as those recited and wherein the nonionic surfactant is a dodecyl alcohol surfactant condensed with 5 to 15 moles of ethylene oxide as recited in claims 8 and 21.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to select the portion of the prior art's range which is within the range of applicant's claims because it has been held to be obvious to select a value in a known range by optimization for the best results. As to optimization results, a patent will not be granted based upon the

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optimization of result effective variables when the optimization is obtained through routine experimentation unless there is a showing of unexpected results which properly rebuts the *prima facie* case of obviousness. See *In re Boesch*, 617 F.2d 272, 276, 205 USPQ 215, 219 (CCPA 1980). See also *In re Woodruff*, 919 F.2d 1575, 1578, 16 USPQ2d 1934, 1936-37 (Fed. Cir. 1990), and *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955). In addition, a *prima facie* case of obviousness exists because the claimed ranges "overlap or lie inside ranges disclosed by the prior art", see *In re Wertheim*, 541 F.2d 257, 191 USPQ 90 (CCPA 1976; *In re Woodruff*, 919 F.2d 1575, 16USPQ2d 1934 (Fed. Cir. 1990). See MPEP 2131.03 and MPEP 2144.05I. Also, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have selected dodecyl alcohol condensed with 5 to 15 moles of ethylene oxide as the specific nonionic surfactant because this is one of the suitable nonionic surfactants taught by Otrhalek.

15. Claims 1-11 and 15-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hu et al. (US Patent No. 5,817,252), hereinafter "Hu".

Hu teaches a deicing and anti-icing composition for aircraft which comprises 20 wt% to 65 wt% water, 1 ppm to 0.5 wt% nonionic surfactant which can be alkoxylated derivatives of alcohols having the general formula  $(C_nH_{(2n+1)}O-(C_2H_4O)_x-H$  where  $n \geq 1$ ,  $x = \text{moles of EO} \geq 1$ , 1 ppm to 1 wt% pH control agents such as potassium hydroxide and sodium hydroxide (see col. 3, line 46 to col. 5, line 8), and may also contain 1 ppm to 1.0 % by weight anti-corrosion compounds, one of which is butyne-1,4 diol (see col. 6, lines 21-26). Hu, however, fails to specifically disclose a cleaning composition comprising water, surfactant and corrosion inhibitor

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or a cleaning composition comprising a corrosion inhibitor like butyne-1,4 diol in amounts as those recited.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to prepare a composition comprising water, alkoxyated nonionic surfactant, for example dodecyl alcohol with  $EO \geq 1$ , potassium or sodium hydroxide, butyne-1,4 diol in their optimum proportions because the teachings of Hu encompass these ingredients and proportions and wherein the combination of these ingredients apparently controls the diffusion rate of water into and throughout a thin film of the composition mixture, thereby retarding the onset and progression of freezing as taught by Hu in col. 6, lines 50-54.

### ***Double Patenting***

16. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

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17. Claims 2-3, 5, 15, 16 and 18 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 4-5 of copending Application No. 10/982,406. Although the conflicting claims are not identical, they are not patentably distinct from each other because both sets of claims are drawn to similar compositions having similar ingredients with overlapping species of corrosion inhibitors.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

18. Claims 1-3, 5, 15, 16 and 18 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 9, 10 of copending Application No. 11/038,585. Although the conflicting claims are not identical, they are not patentably distinct from each other because both sets of claims are drawn to similar compositions having similar ingredients with overlapping species of corrosion inhibitors.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

### ***Conclusion***


19. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The references are considered cumulative to or less material than those discussed above.

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20. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lorna M. Douyon whose telephone number is (571) 272-1313. The examiner can normally be reached on Mondays-Fridays from 8:00AM to 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Douglas McGinty can be reached on (571) 272-1029. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Lorna M. Douyon  
Primary Examiner  
Art Unit 1751